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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,689	03/22/2005	Akira Horiguchi	2224-0238PUS1	4607
2292 7590 06/09/2008 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER MANOHARAN, VIRGINIA				
ART UNIT		PAPER NUMBER		
1797				
NOTIFICATION DATE		DELIVERY MODE		
06/09/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/528,689

Applicant(s)

HORIGUCHI ET AL.

Examiner

Virginia Manoharan

Art Unit

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-85/86)
Paper No(s)/Mail Date 03/22/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors, e.g., typographical, grammar, idiomatic, syntax and etc. Applicants' cooperations are requested in correcting any errors of which applicants may become aware in the specification.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a). The process/method steps recited in claim 12 are already covered in claim 1. Note also the subject matter of claim 11 which appears to be also covered in claim 1, claimed twiced? [Reciting claim 12 in the independent form directed to the species, claim 1 being generic, would obviate this rejection].

b). Claim 4 appears to be at odds with claim 1 with the inclusion of aldehyde, not initially recited in the base claim. Also, claim 7 appears to be inconsistent with claim 1. Claim 7 recites "the resultant crude mixture is fed to a lower bp component-separation column", whereas, claim 1 recites that the "the crude mixture is fed to a higher bp component-separation column which is inconsistent therewith. [A dependent claim

incorporates every features of the claim from which it depends and cannot change nor orient the limitation already recited in the independent claim].

c). There are insufficient antecedent basis for the following limitations in the claims.

1). "the reaction system" in claims 4,5 & 9-10

2). The term "distillation" in claims 5, 8 and 11 was not initially mentioned in the base claim .

3). That an aldehyde having $n+1$ carbon atoms has been removed in claim 6 was not previously recited in claim 1, i.e., relative to the removal process.

d).The "bp" in claims 1 and 14 should fully be identified, then followed by the abbreviation in parenthesis (at least in first occurrence) for clarity reason.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eby (4,039,395) and Kummer et al (4,454,358).

Eby discloses an apparatus which is comprised in combination of: a reactive distillation column 22 (corresponding to the reaction system for allowing an alcohol having "n" carbon atom(s) or a derivative thereof to react with carbon monoxide continuously in the presence of a catalytic system); and a separator 16 (corresponding to the claimed " higher bp component-separation column) and a distillation column 11

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(corresponding to the claimed carboxylic acid-separating column). See e.g., col. 3, lines 24-36. Kummer et al suggests the claimed "catalyst-separating column for separating a higher bp catalyst component from a reaction mixture generated in the reaction system". Note e.g., col. 1, lines 53-63. To combine the references would have been obvious to one of ordinary skill in the art inasmuch as both references are directed to similar processing environment. i.e., to the purification of a carboxylic acid; and since Eby also suggests the reaction in the presence of a catalyst.

The claimed material or fluid –in-process e.g., carboxylic acid having "n+2" carbon atoms, carboxylic acid having "n+1" carbon atoms, an ester of the carboxylic acid having "n+1" carbon atoms with the alcohol, and water are not the basis of patentability of an apparatus claim A structure does not even see what goes through it.

Claims 1-13 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a). Nijima et al and Cooper discloses a purification process involving acetic acid by distillation.
- b). Cook et al discloses a process conducted in the presence of a carbonylation catalyst system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to V. Manoharan whose telephone number is (571) 272-1450.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Virginia Manoharan/
Primary Examiner, Art Unit 1797